FEMA REGION 8

NORTH DAKOTA RISK MAP UPDATE

FEBRUARY 2021

If you require a reasonable accommodation or an alternative format of available information such as American Sign Language format, audio, or other format, please submit your request to: Region8AccommodationRequest@fema.dhs.gov.

NORTH DAKOTA STATE WATER COMMISSION CELEBRATES ONE-YEAR ANNIVERSARY OF NORTH DAKOTA RISK ASSESSMENT MAPSERVICE

This past fall, the North Dakota State Water Commission celebrated the one-year anniversary of the North Dakota Risk Assessment MapService (NDRAM). NDRAM is a tool that allows users to visually display current flood risks, including non-regulatory floodplains from Base Level Engineering (BLE) and effective regulatory floodplains from FEMA's National Flood Insurance Program (NFIP).

NDRAM is a joint effort between FEMA and the Water Commission. In 2018, the two organizations partnered to create NDRAM because two-thirds of North Dakota did not have access to authoritative flood risk data. Without this data, many cities and rural populations had little information to make local floodplain management regulations and decisions.

BLE forms accurate flood risk data through high-resolution ground elevation data and modeling software. BLE focuses on unknown, unmodernized, and unmapped areas to provide data for areas without flood maps. North Dakota provided the ground elevation data, and FEMA funded the engineering analysis through its engineering provider. Together, they created a BLE dataset for the entire state of North Dakota – the first state to have flood risk data for every county.

NDRAM makes the BLE data and existing state flood maps accessible to the public. It was designed to be a one-stop shop for flood risk information. NDRAM uses state-of-the-art technology to provide more than 47 terabytes of data that is free and available for download on the Water Commission website at www.swc.nd.gov.

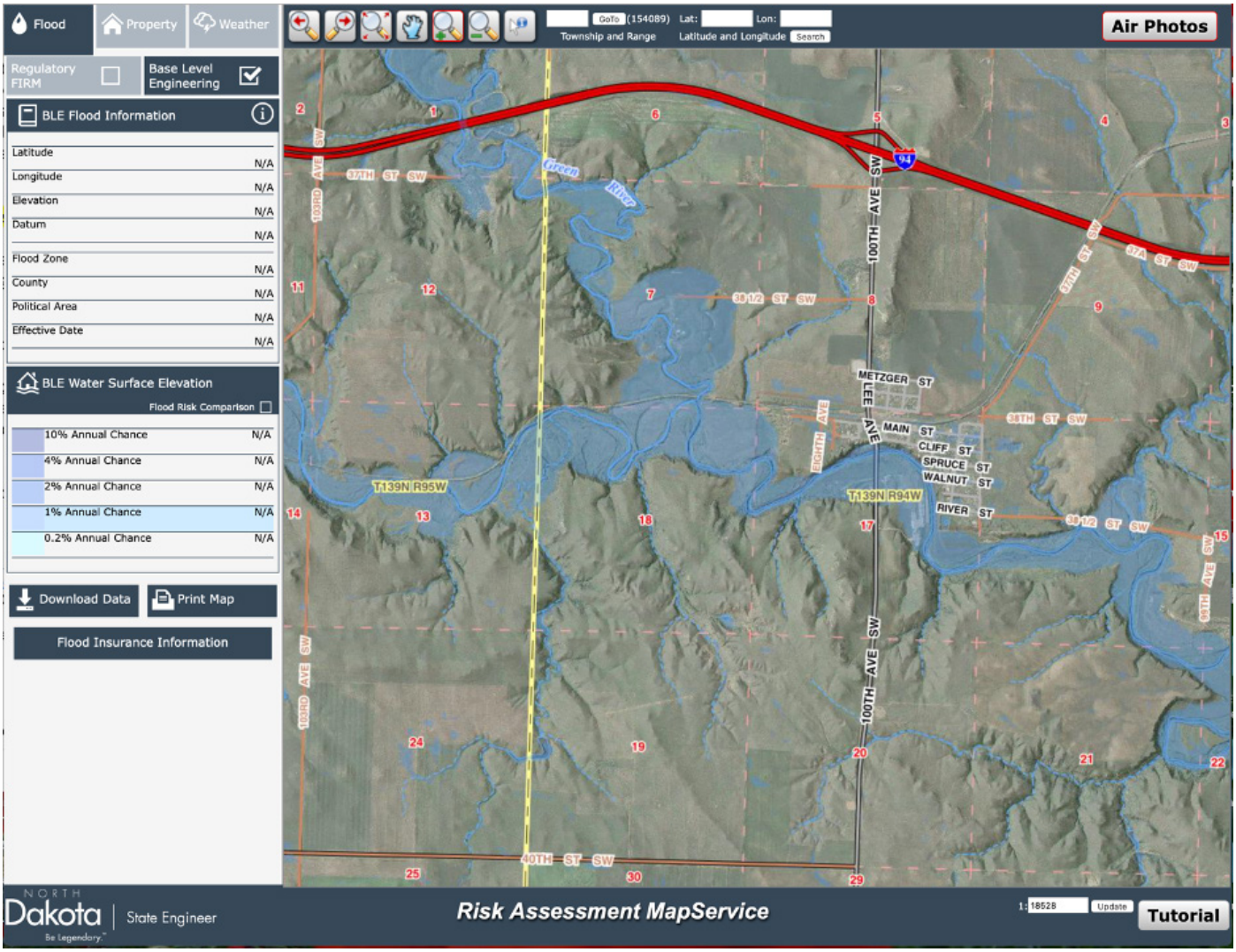
FEMA | NORTH Dakota Be Legendary. | State Engineer | RiskMAP Increasing Resilience Together

NORTH DAKOTA RISK MAP UPDATE

NDRAM allows users to view water surface elevations and flood depths; download engineering model data, depth and velocity grids; and print customized maps. NDRAM also allows residents to type in their address (house number, zip code and county) to get parcel-specific information. The address look-up feature leverages the state's 911 location and address information.

NDRAM recently added new innovations in order to enhance the platform's functionality. When using the NDRAM tool, the users can now access a weather tab that displays current warnings, observed river stages, significant river flood outlooks, and snow water equivalent. These additional features provide increased capabilities, expertise, and information for residents, emergency managers and community leaders seeking flood information.

To celebrate the one-year anniversary, the Water Commission launched a new NDRAM tutorial video. The tutorial was created to provide additional support to users. The nearly ten-minute video is a step-by-step guide on how to navigate NDRAM and helps users access useful data. You can view the video at www.swc.nd.gov.



A screenshot of the NDRAM, which provides flood risk data for every county in North Dakota.

FEMA | NORTH Dakota State Engineer | RiskMAP Increasing Resilience Together

The tutorial is just one of many outreach efforts the Water Commission has implemented to encourage public awareness and use of the robust NDRAM tool. Water Commission staff members provided several training opportunities and demonstrations of the platform at various events in 2019, including the LaMoure County Flood Preparedness event. Water Commission staff provided additional outreach to the City of Mandan and Morton County staff, the Emergency Management Institute – Cooperating Technical Partners (CTP), the Morton County Water Board, and North Dakota Floodplain Administrators. Staff also presented demonstrations of NDRAM to elected officials, emergency managers, water resource districts, and community leaders.

You can access the NDRAM at www.ndram.swc.nd.gov or contact Laura Horner, North Dakota's Risk MAP Coordinator at lmhorner@nd.gov for more information.

NDRAM is critical to developing flood risk data and benefits the entire state. The tool replaced outdated information, facilitated the phasing-out of paper-only map inventory, and provided data to counties where there was none. NDRAM can also be used as the best available data for mitigation and post-disaster grant applications, bolstering efforts in North Dakota communities to better prepare and plan for natural disasters. Finally, NDRAM has helped prioritize FEMA flood mapping studies for future funding.

In recognition of NDRAM's success and benefits, CTP Collaboration Program recognized the tool as a Best Practices Case Study. The Best Practices Case Study noted that throughout the past year, NDRAM has provided beneficial flood risk information for the whole state of North Dakota and complimented three noteworthy components of the tool. It has: 1) provided a statewide BLE dataset; 2) enhanced engagement and outreach; and 3) created data sharing in a user-friendly format.

PREPARING FOR SPRING SNOWMELT

Quickly warming temperatures in the spring cause snow to melt and, depending on conditions, can result in flooding. The amount of flooding depends on a variety of different factors, including depth of snowpack, how quickly the snow melts, how saturated the ground was going into winter, and rainfall or snowfall amounts in the spring.[1]

Flooding is one of the most common and widespread disasters and can cause significant damage and devastation. In 2019, flooding throughout the spring and summer cost more than $6.2 billion in damages and caused four deaths across North Dakota, South Dakota, Nebraska, Iowa, Missouri, Minnesota, Wisconsin and Michigan.[2]

This past spring, the Red River at Grand Forks reached moderate flood levels, and the spring snowmelt was manageable, compared to 2019. But while flooding in spring 2020 was more contained, this year's snowmelt could still lead to delays and challenges with crop planting and cause damage to roads, bridges, levees and dams.[3] According to FEMA insurance specialists, just 1 inch of water can cause $25,000 worth of damage, and the average flood insurance claim over the past five years was $69,000.

HAVE FLOOD INSURANCE?

Below are some additional actions you can take now to prepare for potential flood conditions this spring:

- **Check your sump pump and install a battery backup.**
- **Install a water alarm.**
- **Clear debris from gutters and downspouts.**
- **Anchor fuel tanks.**
- **Itemize and take photos of possessions.**
- **Move furniture, valuables and important documents to a higher space in your home.**
- **Put together an emergency supply kit.**
- **Make a pet plan.**
- **Take photos and videos to conduct household inventory.**
- **Sign up for local weather alerts – Stay informed!**

Predictions and spring outlooks will be available from the National Weather Service in February and March 2021, but you can take steps now to prepare for snowmelt.

PREPARE WITH FLOOD INSURANCE:

For property owners, the best thing you can do is buy or renew flood insurance. Most traditional homeowners and renters insurance do not cover flood damage, so it's important to check and protect yourself against the damage a flood can bring.

You can purchase flood insurance at any time, but it can take up to 30 days before the policy goes into effect, so it is best to purchase early before flooding happens.

Flood insurance covers flooding from weather events, including overflow of inland waters (such as a lake or river), pooling or runoff of surface waters from any source like heavy rainfall, mudflows, and collapse of land along the shore of a lake or other body of water. All conditions that will be useful to North Dakotans!

The NFIP offers coverage for your building, belongings and basement. Visit floodsmart.gov for more information and to get coverage today.

[1] https://weather.com/safety/winter/news/2020-02-26-march-weather-winter-spring-snow-rain-wind-severe
[2] https://www.climate.gov/news-features/blogs/beyond-data/2010-2019-landmark-decade-us-billion-dollar-weather-and-climate
[3] https://weather.com/safety/floods/news/2020-02-13-spring-flood-risk-plains-midwest-south

FEMA
NORTH Dakota Be Legendary. | State Engineer
RiskMAP Increasing Resilience Together

NORTH DAKOTA RISK MAP UPDATE

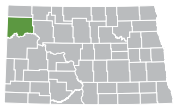
YOUR COUNTY'S RISK MAP PROGRESS

YEAR 1

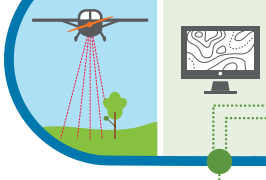
Phase 1
DISCOVERY MEETING

5 Active Risk MAP Projects (non-legacy) in North Dakota–more detailed flood risk information is being created:

YEAR 2-4

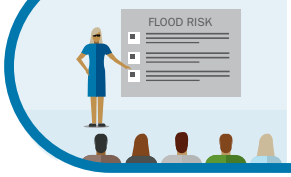


Williams
FY15 & FY 18 Funded



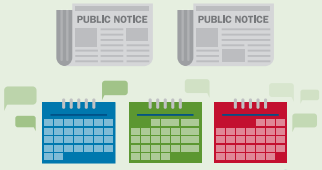
Phase 2
ENGINEERING & MODELING

Phase 3
FLOOD RISK REVIEW



Phase 4
PRELIMINARY MAP RELEASE

Phase 5
APPEAL PERIOD



YEAR 3-5+

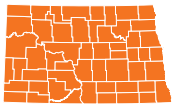
Phase 7
ADOPTION & COMPLIANCE

Phase 6
LETTER OF FINAL DETERMINATION

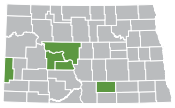
Phase 8
RESILIENCE MEETING

Phase 9
EFFECTIVE MAPS

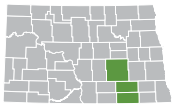
Timing and sequence may vary by county



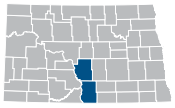
All 53 Counties
North Dakota is the first state to have risk analysis completed in every county



Oliver
Mercer
McLean
Logan
Golden Valley
FY19 Funded

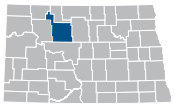


Stutsman
LaMoure
Dickey
FY18 Funded



Emmons
Burleigh
FY18 Funded

Stark
FY17 Funded



Ward
FY07 Funded

FEMA

NORTH Dakota Be Legendary. | State Engineer

RiskMAP
Increasing Resilience Together